

## Rapid Assessment Reference Condition Model

The Rapid Assessment is a component of the LANDFIRE project. Reference condition models for the Rapid Assessment were created through a series of expert workshops and a peer-review process in 2004-2005. For more information, please visit [www.landfire.gov](http://www.landfire.gov). Please direct questions to [helpdesk@landfire.gov](mailto:helpdesk@landfire.gov).

### Potential Natural Vegetation Group (PNVG):

R#PIJEsp

Pine Savannah - Ultramafic

### General Information

**Contributors** (additional contributors may be listed under "Model Evolution and Comments")

#### Modelers

Tom DeMeo                      tdemeo@fs.fed.us  
Diane White                    dewhite01@fs.fed.us

#### Reviewers

Tom Atzet                      jatzet@budget.net  
Jim Merzenich                jmerzenich@fs.fed.us

#### Vegetation Type

Woodland

#### Dominant Species\*

PIJE  
PIMO  
PSME  
ABMA

#### General Model Sources

- Literature  
 Local Data  
 Expert Estimate

#### LANDFIRE Mapping Zones

1	8
2	9
7	

#### Rapid Assessment Model Zones

- |  |   |
|--|---|
| <input type="checkbox"/> California      | <input checked="" type="checkbox"/> Pacific Northwest |
| <input type="checkbox"/> Great Basin     | <input type="checkbox"/> South Central                |
| <input type="checkbox"/> Great Lakes     | <input type="checkbox"/> Southeast                    |
| <input type="checkbox"/> Northeast       | <input type="checkbox"/> S. Appalachians              |
| <input type="checkbox"/> Northern Plains | <input type="checkbox"/> Southwest                    |
| <input type="checkbox"/> N-Cent.Rockies  |   |

#### Geographic Range

This woodland type occurs in Southwest Oregon and Northern California on serpentine soils derived from ultramafic rocks.

#### Biophysical Site Description

These dry sites are easily recognized due to the serpentine soils, and are more pronounced on southern aspects. At elevations from 200 to 3500 ft ASL, the sites will likely be dominated by Jeffrey pine. White pine occurs at 5000-7000 feet. Soils are usually shallow, and surface rock averages 8-27 percent. However, the defining character for the soil is the mineral nutrition rather than its depth.

This type represents about 20 percent of the total range of Jeffrey pine.

#### Vegetation Description

Savanna woodland that can be divided into two subtypes: Jeffrey pine and western white pine.

Plant associations PIJE/ARCAS/FEID, PIJE/CECU/FEID, PIJE/FEID. -- Jeffrey pine subtype associated with incense-cedar and Douglas-fir. Herbaceous layer strongly dominated by grasses, notably Idaho fescue, and serpentine-adapted herbs. Occasional ceanothus and manzanita.

Plant association PIMO3/XETE. -- White pine subtype conifer associates include Shasta red fir. Understory dominated by beargrass, with a diversity of herb species common. Herbaceous layer strongly dominated by grasses, notably Idaho fescue, and serpentine-adapted herbs. Occasional ceanothus and manzanita.

#### Disturbance Description

Historically, these woodland types had frequent low-severity fire (Fire Regime I). However, now there is

\*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit <http://plants.usda.gov>.

higher susceptibility to stand replacing fire because of fire exclusion.

**Adjacency or Identification Concerns**

Also found in northern California on similar sites. These woodlands are usually found within a matrix of mixed conifer and mixed evergreen stands. However, their identity lies in the soil conditions, rather than environmental gradients.

This PNVG may be similar to the PNVG R1PIJE from the California model zone.

**Scale Description**

**Sources of Scale Data**  Literature  Local Data  Expert Estimate

Regionally a relatively small part of the landscape, but of great value for plant diversity. Patches in thousands of acres. However, disturbance patches were occasionally smaller in mixed severity fires.

**Issues/Problems**

Other disturbances in this type include wind-weather-stress, insects-disease, and competition-lack of seed. However, these disturbances were not modeled in VDDT.

**Model Evolution and Comments**

Note this type is defined as only occurring on ultramafic geology-- model does not apply to Jeffrey pine on other areas.

One reviewer suggests that the range of fire frequency be qualified by the biomass productivity, which is keyed to soil chemistry. Furthermore, this PNVG is considered a 'woodland' type, but it includes some sites that are dominated by shrubs.

[Throughout the model, replacement fires reset to Class A, and surface fires recycle into the same class.]

<b>Succession Classes</b>														
<i>Succession classes are the equivalent of "Vegetation Fuel Classes" as defined in the Interagency FRCC Guidebook (www.frcc.gov).</i>														
<p><b>Class A 15%</b></p> <p>Early1 PostRep</p> <p><b>Description</b></p> <p>Scattered Jeffrey pine and/or white pine and incense-cedar seedlings and saplings with herbaceous understory.</p>	<p><b>Indicator Species* and Canopy Position</b></p> <p>PIJE PIMO CADE27</p> <p><b>Upper Layer Lifeform</b></p> <p><input type="checkbox"/> Herbaceous <input type="checkbox"/> Shrub <input type="checkbox"/> Tree</p> <p><b>Fuel Model</b> no data</p>	<p><b>Structure Data (for upper layer lifeform)</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><i>Min</i></th> <th style="text-align: center;"><i>Max</i></th> </tr> </thead> <tbody> <tr> <td><i>Cover</i></td> <td style="text-align: center;">0 %</td> <td style="text-align: center;">30 %</td> </tr> <tr> <td><i>Height</i></td> <td style="text-align: center;">no data</td> <td style="text-align: center;">no data</td> </tr> <tr> <td><i>Tree Size Class</i></td> <td colspan="2" style="text-align: center;">no data</td> </tr> </tbody> </table> <p><input type="checkbox"/> Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:</p>		<i>Min</i>	<i>Max</i>	<i>Cover</i>	0 %	30 %	<i>Height</i>	no data	no data	<i>Tree Size Class</i>	no data	
	<i>Min</i>	<i>Max</i>												
<i>Cover</i>	0 %	30 %												
<i>Height</i>	no data	no data												
<i>Tree Size Class</i>	no data													

\*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit <http://plants.usda.gov>.

**Class B 45%**

Mid1 Open

**Description**

Mixed stands of Jeffrey pine and/or white pine with other conifers, typically incense-cedar and Douglas-fir. Park-like.

**Indicator Species\* and Canopy Position**

PIJE  
CADE27  
PIMO  
PSME

**Upper Layer Lifeform**

- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

	Min	Max
Cover	10 %	40 %
Height	no data	no data
Tree Size Class	no data	

Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

**Class C 40%**

Late1 Open

**Description**

Scattered large Jeffrey pine/white pine maintained by frequent low intensity fire.

**Indicator Species\* and Canopy Position**

PIJE  
PIMO

**Upper Layer Lifeform**

- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

**Structure Data (for upper layer lifeform)**

	Min	Max
Cover	10 %	40 %
Height	no data	no data
Tree Size Class	no data	

Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

**Class D 0%**

Late1 Open

**Description**

**Indicator Species\* and Canopy Position**

**Structure Data (for upper layer lifeform)**

	Min	Max
Cover	%	%
Height	no data	no data
Tree Size Class	no data	

**Upper Layer Lifeform**

- Herbaceous
- Shrub
- Tree

**Fuel Model** no data

Upper layer lifeform differs from dominant lifeform. Height and cover of dominant lifeform are:

**Class E 0%**

Late1 Closed

**Description**

**Indicator Species\* and Canopy Position**

**Structure Data (for upper layer lifeform)**

	Min	Max
Cover	0 %	%
Height	no data	no data
Tree Size Class	no data	

\*Dominant and Indicator Species are from the NRCS PLANTS database. To check a species code, please visit <http://plants.usda.gov>.

**Upper Layer Lifeform** Upper layer lifeform differs from dominant lifeform.  
Height and cover of dominant lifeform are:

- Herbaceous  
 Shrub  
 Tree

**Fuel Model** no data**Disturbances****Non-Fire Disturbances Modeled**

- Insects/Disease  
 Wind/Weather/Stress  
 Native Grazing  
 Competition  
 Other:  
 Other:

**Fire Regime Group: 1**

- I: 0-35 year frequency, low and mixed severity  
 II: 0-35 year frequency, replacement severity  
 III: 35-200 year frequency, low and mixed severity  
 IV: 35-200 year frequency, replacement severity  
 V: 200+ year frequency, replacement severity

**Historical Fire Size (acres)**

Avg:  
 Min:  
 Max:

**Fire Intervals (FI):**

Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is the central tendency modeled. Minimum and maximum show the relative range of fire intervals, if known. Probability is the inverse of fire interval in years and is used in reference condition modeling. Percent of all fires is the percent of all fires in that severity class. All values are estimates and not precise.

**Sources of Fire Regime Data**

- Literature  
 Local Data  
 Expert Estimate

	Avg FI	Min FI	Max FI	Probability	Percent of All Fires
<i>Replacement</i>	200	100	300	0.005	7
<i>Mixed</i>					
<i>Surface</i>	15	10	20	0.06667	93
<i>All Fires</i>	14			0.07168	

**References**

Atzet, T., D.E. White, L.A. McCrimmon, P.A. Martinez, P.R. Fong, and V.D. Randall. 1996. Field guide to the forested plant associations of Southwestern Oregon. Portland, OR: USDA For. Serv. Tech. Pap. R6-NR-ECOL-TP-17-96.

Burns, R.M., and B.H. Honkala. 1990. Silvics of North America: Vol. 1, conifers. Washington, DC: USDA For. Serv. Ag. Handbook 654, 675 pp